

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Jerome SOUPPE, et al.

For: IMPROVED PROCESS FOR THE PRODUCTION OF ALCOHOLIC BEVERAGES
USING MALTSEED

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Please amend the above identified application as follows:

IN THE SPECIFICATION

Page 3, after line 3, please insert the following new paragraph:

--BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a brewing diagram showing conditions used in brewing trials involving test brews prepared according to the invention and a control brew (see Example 10 below); and

CERTIFICATE UNDER 37 1.10

I hereby certify that this paper is being deposited with the United States Postal Service on this date OCTOBER 4, 2001 in an envelope as "EXPRESS MAIL POST OFFICE TO ADDRESSEE" Mailing Label Number EL728245339US addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231

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Barbara D. Santiago
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NOTE: Each paper or fee referred to as enclosed herein has the number of the "EXPRESS MAIL" mailing label place thereon prior to mailing 37 CFR 1.16(b).

Figure 2 is a brewing diagram showing conditions used in brewing trials involving a test brew prepared according to the invention and a control brew (see Examples 11 and 12, below).--

IN THE CLAIMS :

Please cancel claims 1-8.

Please add new claims 9-17 as follows:

9. (New) In a process for preparing an alcoholic beverage comprising heating, steeping or mixing a plurality of raw materials to form a brew, the improvement comprising adding to the brew during any stage of its formation a non-malt component or components collectively comprising a mixture of enzymes including at least an endo β -(1,4)-xylanases, an arabinofuranosidase, an alpha-amylase, an endo-protease and a β -(1,3-1,4)-glucanase, wherein the enzymes are present in respective amounts sufficient to provide the alcoholic beverage with a taste profile of a malt brew having a higher malt content than said alcoholic beverage, and wherein the component or components comprise a seed.

10. (New) A process according to claim 9, wherein the seed is from a transgenic plant line that sets seed containing at least one of said enzymes.

11. (New) A process according to claim 9, wherein a plurality of the components collectively comprising said mixture of enzymes is added to the brew, each of said components comprising a seed containing a respective one of said enzymes such that each of the enzymes is included in the beverage from a seed component.

12. (New) A process according to claim 11, wherein each of the respective seeds containing said components is from a different transgenic plant line, each of the different transgenic plant lines setting seed containing a respective one of said enzymes.

13. (New) A process according to claim 9, wherein the seed comprises a plurality of the enzymes.

14. (New) A process according to claim 13, wherein the seed is from a transgenic plant line that sets seed containing said plurality of enzymes.

15. (New) A process according to claim 10, wherein the transgenic plant line is a barley plant line.

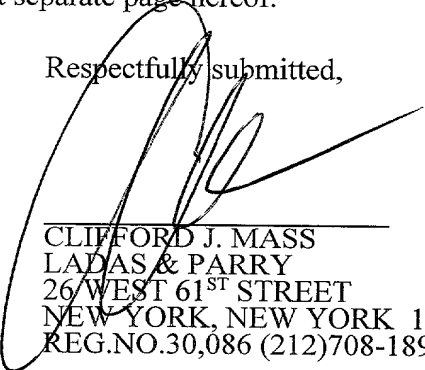
16. (New) A process according to claim 12, wherein each of the different transgenic plant lines is a barley plant line.

17. (New) A process according to claim 14, wherein the transgenic plant line is a barley plant line.

IN THE ABSTRACT

Please add the Abstract on the last separate page hereof.

Respectfully submitted,



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ABSTRACT

The invention relates to a process for the production of alcoholic beverages such as beer or whiskey with a mixture of enzymes comprising an endo- β (1,4)-xylanase, an arabinofuranosidase, an alpha-amylase, an endo-protease and a β -(1,3; 1,4)-glucanase, and optionally, a saccharifying amylase and/or an exopeptidase. Preferable are mixtures in which the enzymes which are necessary in the brewing process are provided by transgenic seeds. Only a minor amount of malt may be necessary for flavour and colour.

Figure 1 Brewing diagram

- Cereal cooker/mash cooker
- Conversion vessel/mash mixer

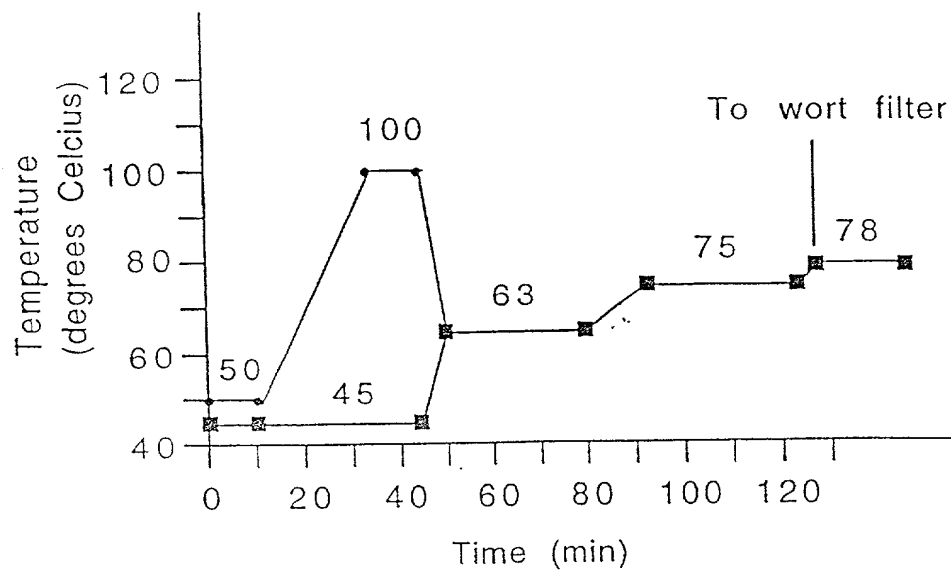


FIGURE 1

Figure 2 Brewing diagram for test brew 1 and the control

- Cereal cooker/mash cooker
- Conversion vessel/mash mixer

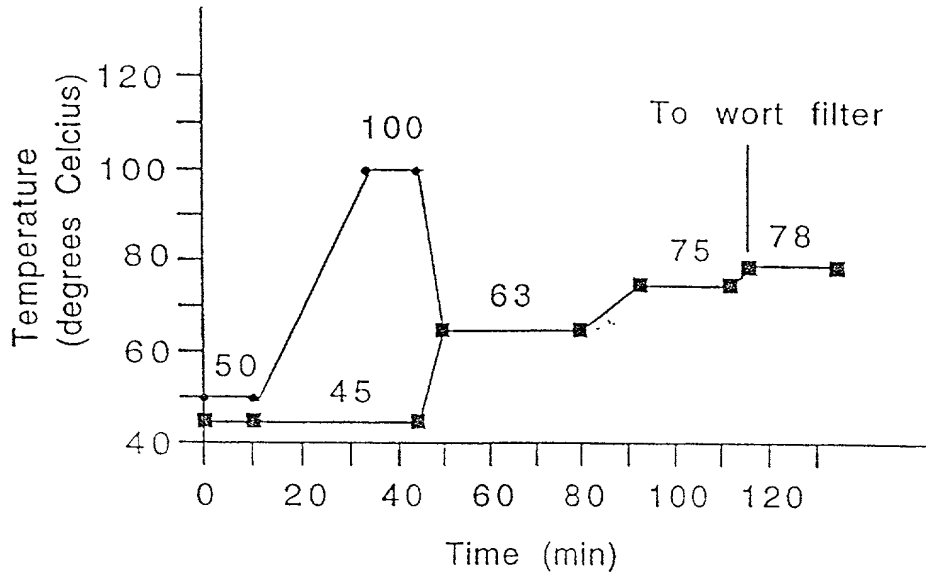


FIGURE 2